

7707-M003-2, rev2 (03/2017)

PLUS 73

INSTRUCTION MANUAL

GB

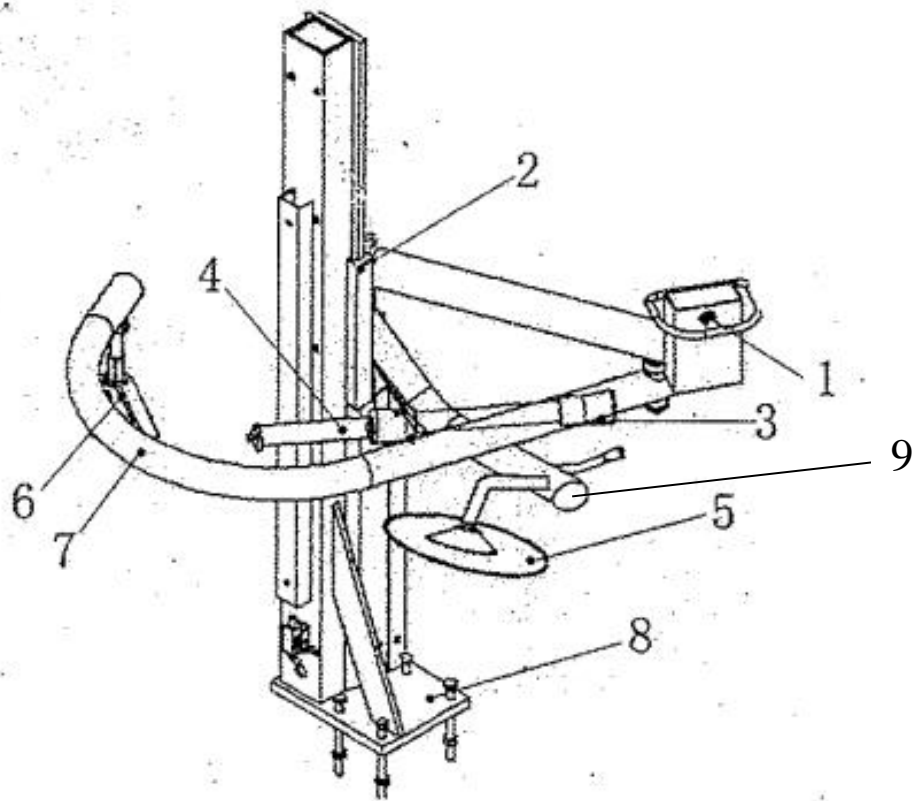
TRANSLATION FROM THE
ORIGINAL INSTRUCTIONS

For spare parts refer to the section "LIST OF COMPONENTS" enclosed to this manual.

- For any further information please contact your local dealer.



SUMMARY



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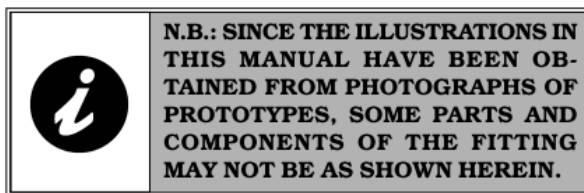
FIG. 1 – PLUS 73 DEVICE**LEGENDA**

- 1- Rise / fall control lever
- 2- Arms movable support
- 3- Roller
- 4- Horizontal arm
- 5- Lower bead disk
- 6- Bead pressor tool
- 7- Bead pusher unit
- 8- Fixing plate
- 9- Disk support arm

SYMBOLS USED IN THE MANUAL AND ON THE MACHINE

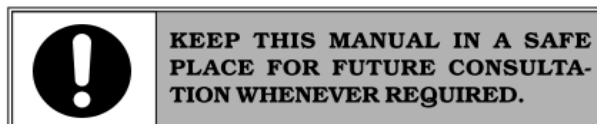
Symbols	Description
	Mandatory. Operations or jobs to be performed compulsorily
	Warning. Be particularly careful (possible material damages).

Symbols	Description
	Danger! Be particularly careful.
	Note. Indication and/or useful information.



1.0 GENERAL INFORMATION

The present manual is an integral part of the product. Read the warnings and instructions in this manual carefully, since they provide important information concerning **ASSEMBLY, USE AND MAINTENANCE SAFETY OF THE FITTING.**



The technical documentation supplied is an integral part of the fitting; therefore, if the equipment is sold all the documentation must be consigned with it.

2.0 INTENDED USE

The PLUS DEVICE is a fitting applicable on all the tyre demounting plate-type machines series HP341/441 and it is intended to assist the mounting and demounting tyres operations, in particular for low profile tyres or with hard and stiff tire wall. The device can operate on all the wheels having their maximum dimensions included within the limits of the tyre demounting machine on which it is assembled.

2.1 Staff training

The installation of the fitting is allowed only by suitably trained and authorized personnel. In view of the importance of the operations needed to install and utilize the fitting and to

carry out procedures efficiently and safely, the personnel using the machine must be correctly trained, so that they acquire the information required for operation in line with the guidelines provided by the manufacturer.

A careful reading of this instruction manual and a short period of training with skilled personnel can be an enough preventive preparation.

This accessory must be only destined to the use for which it has been expressly conceived.

Any other use is considered improper and therefore unacceptable.

The manufacturer may not be considered responsible for any damage caused by improper, incorrect or unreasonable use of the accessory.

3.0 GENERAL SAFETY RULES

- **Any tampering with or modification of the fitting not authorised in advance by the manufacturer relieves the latter of liability for damage consequent on or related to such operations.**
- Use of the fitting is only permitted in places free from explosion or **fire hazard and in dry places under cover.**
- Original spare parts and accessories should be used.
- Installation must be carried out by qualified staff, in full accordance with the instructions provided below.
- Check that no dangerous situations arise during operation; if malfunctions are noted, don't use the fitting, and contact your authorised dealer's after-sales service.
- The operator must wear appropriate working clothing, protective goggles, gloves and mask to avoid damage deriving from hazardous dust

emissions. Dangling objects such as bracelets must not be worn, long hair must be suitably protected, and shoes must be suitable for the type of operation to be carried out.

- The fitting handles and operating grips must be kept clean and free from oil.
- Never activate the inflation fitting if the wheel is not properly locked on the self-centering chuck.

4.0 UNPACKING

This fitting is supplied completely assembled. **Carry out the unpacking and installation operations described below with care.**

Failure to comply with these recommendations may cause damage to the fitting and put the operator at risk.

The packaging components (plastic bags, expanded polystyrene, etc.) must not be left within reach of children since they are potentially dangerous.

Dispose of all contaminating or non-biodegradable materials appropriately.

During the unpacking always wear gloves to avoid scratches caused by the contact with the packing material (rivets and so on...).

4.1 Transport of the packaged device

The lifting device must have a capacity at least equal to the weight of the packaged device (see paragraph "Technical data").

The load handling operations must be carried out only by skilled personnel.

4.2 Transport of the device delivered packaged together with the machine

1) Lower completely the pressing arm. The device can be moved only if also the machine where it is fixed is moved. Check that all the mobile elements of the device are locked. Follow all the instructions about the tyre changing machine described in its use manual.

2) Follow the lifting procedure described in the manual about the tyre changing machine where the accessory is installed on.

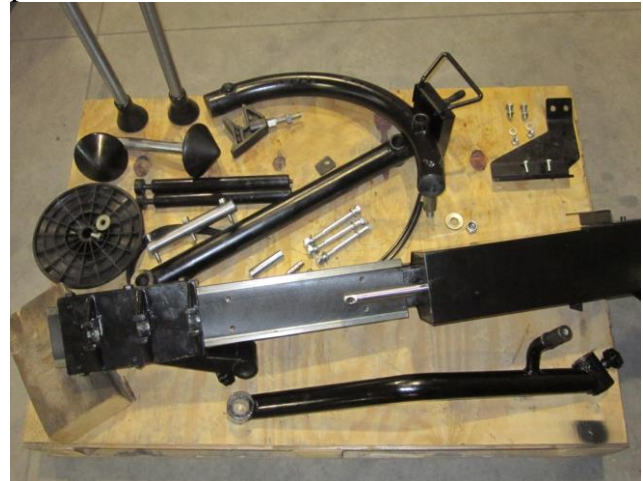
5.0 ASSEMBLY AND START-UP

After removing the packaging from the fitting, check it for damage or any anomalies and then follow the instruction provided below to put the lift into operation.

5.1 Accessories inside the packaging

Inside the packing case there are also accessories necessary for the assembly of the Plus Device on the tyre demounting machine.

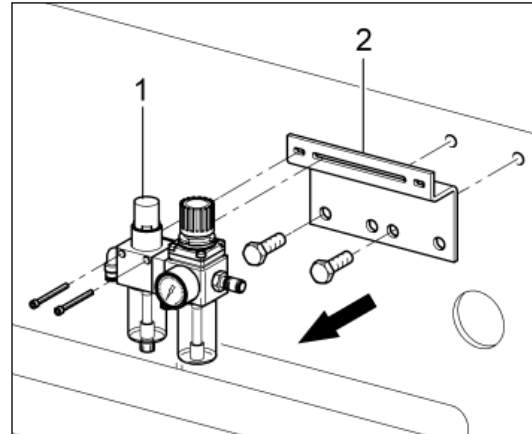
Check that all the pieces listed below are present:



Filter group support
Black connection support
Ø8 x 330 air hose
Ø8 x 530 air hose
Ø8 x 600 air hose
Ø8 x 1030 air hose
TCEI Ø6 x 25 screw
TCEI Ø10 x 30 screw
TCEI Ø10 x 50 screw
TE Ø8 x 20 screw
TE Ø10 x 130 screw
TE Ø12 x 130 screw
Ø6 x 11 flat washer
Ø10 x 21 flat washer
Ø12 x 24 flat washer
Ø10 Grover washer
M10 medium bolt
M12 self centering bolt
M16 self centering bolt
T-junction quick coupling Ø 8-8-8
Quick coupling Ø8-8 junction



Disconnect and demount air treatment unit support.

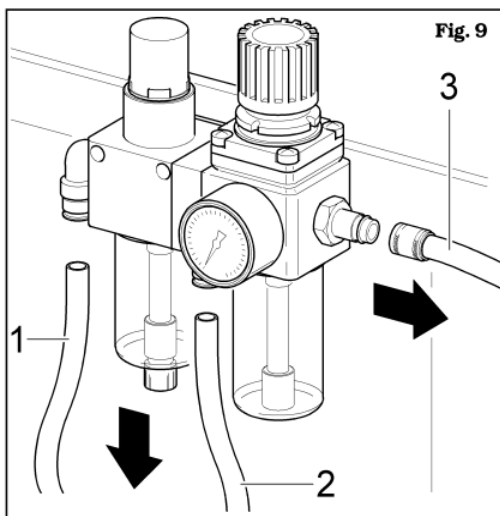


5.2 Machine setting

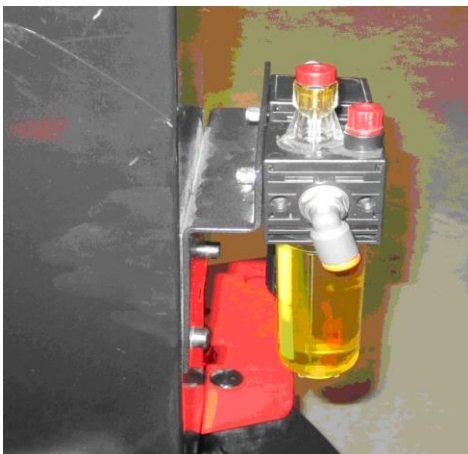
Before carrying out any operation it's obligatory to cut off the voltage to the tyre changing machine.

5.2.1 Pneumatic disconnection

Disconnect pipes



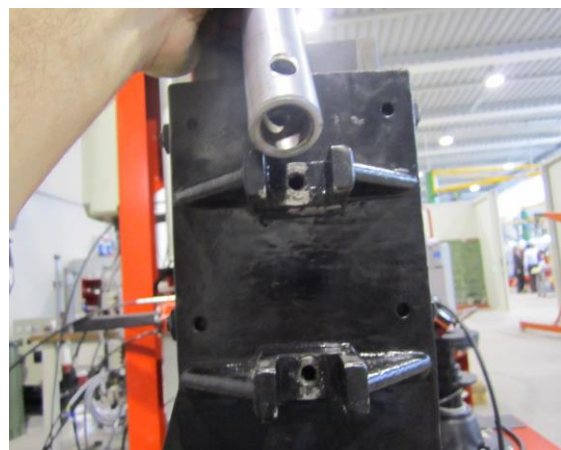
Disconnect and demount the air treatment unit.



5.2.2 Installation procedure

Please operate with the help of a second operator, in particular during the installation procedure in order to hold the column and keep the connecting hoses.

Position the device in vertical position with the help of a second operator and position the arm fulcrum pin as indicated in the picture below, centering it first on the upper arm and then on the lower arm. Please pay attention to keep the hole towards the base of the frame.



Pay attention to the cables. They are already connected between the column unit and the arms of the device.



Therefore we recommend to ask for another operator's help during the other following operations of moving / assembling / mounting of the device.

To fix both arms of the device, use two TCEI M10X50 screws and point them to the upper pin holes without tightening.



Centre a spacer in the proper hole.



With the help of a second operator, position the column base in correspondence with the machine base. To fix the parts, use the

following : two M12X130 screws, four D.12 flat washers and two M12 selfcentering bolts.



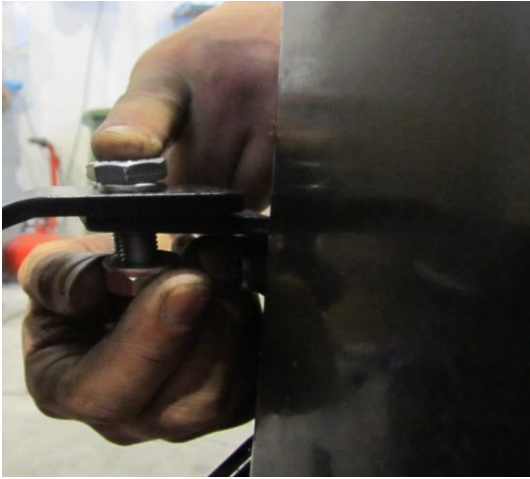
Tighten the two screws as indicated below.



Take the black connection support and fix it to the machine-frame and also to the column of the device. To fix the support to the machine, use two TE M8x20 screws.



To fix the support to the device, use two TCEI M10x30 screws, two D.10 flat washers, two D.10 washers, and M10 medium bolts. Tighten all screws.



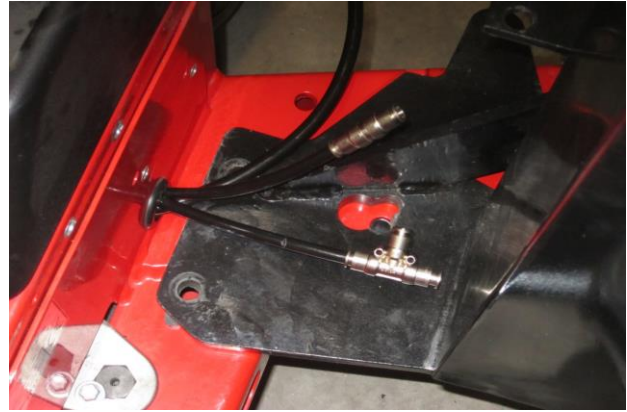
To fix the two support feet to the machine frame, use two TCEI M6x25 screws and proper D.6 flat washers.



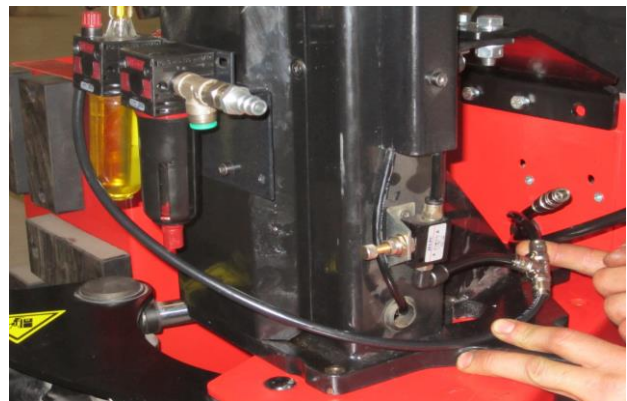
Now re-mount the FRP group and its support previously demounted, by using the same screws.

5.2.3 Pneumatic connections

Connect a T-8 junction to the hose previously connected to the L-junction after the lubricator filter. Connect the D.8 junction coupling to the hose previously connected to the junction situated between the lubricator filter and the pressure regulator.



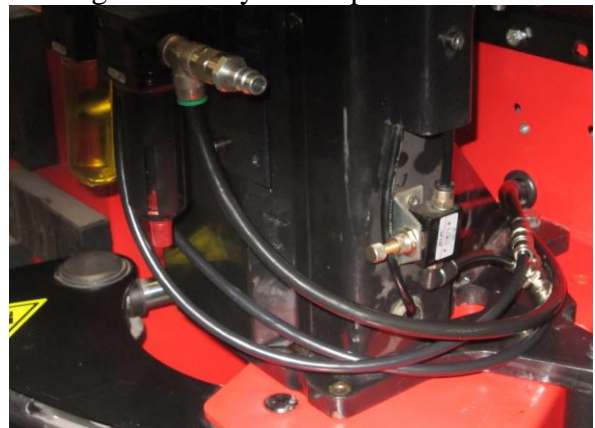
Connect the rilsan 8 L.530 hose to the junction situated between the lubricator filter and the pressure regulator. Connect the other end to the 8-junction.



Connect a rilsan 8 L.600 hose to the L-junction situated after the lubricator filter.

Connect the other end to one of the seats of the T-junction.

To the other seat of the T-junction, connect a rilsan 8 L.330 hose. Connect the other end to the valve regulator of cylinder speed.



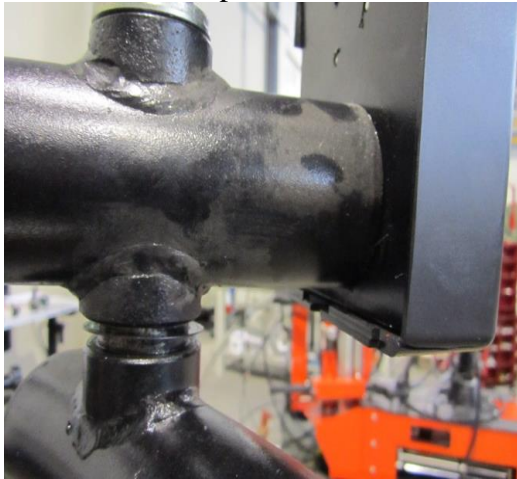
For FI versions with inflation tank, connect the only rilsan 10 hose to the T 10 junction situated before the pressure regulator.

5.2.4 Mounting finishing

Fix the pressor arm to the control unit arm.



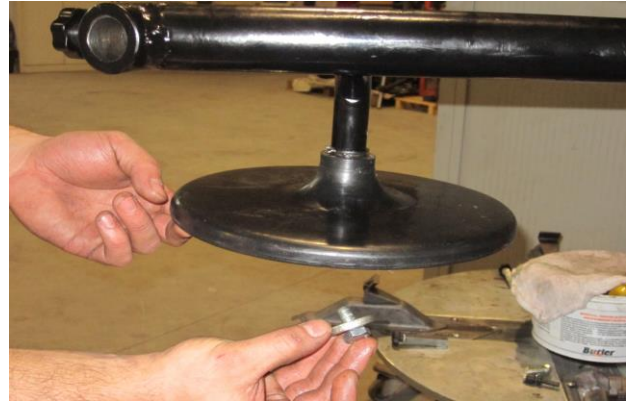
For fixation, use a M16 selflocking bolt, one washer and one zinc-plated washer.



Fix the tool by screwing it to the bottom part of the pressor arm.



Fix the disc to the arm by using washer and screw.

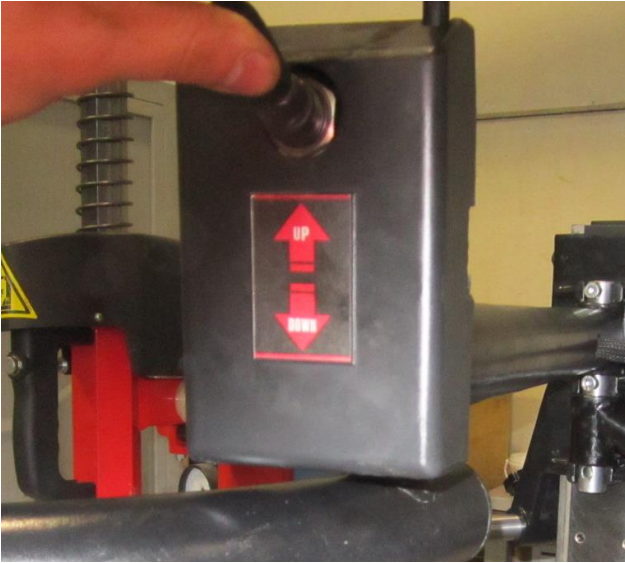


Insert movable arms in their proper seats.



Now feed again the machine.

Acting on the lever of the control unit in **UP** position, move the cylinder shaft near the hole paying attention not to force on the pin.



Give air to the machine and let the cylinder shaft come out, centring it on the hole situated at the bottom of the fulcrum pin.

Fix the shaft to the pin by using the proper TCEI M10x50 screw. Tighten all three fixing screws.



WHEN THE ASSEMBLY PROCEDURES ARE COMPLETE, MAKE A CHECK ON OF ALL THE MACHINE FUNCTIONS.

! IN CASE OF DOUBTS DON'T UTILIZE THE MACHINE AND CALL SKILLED TRAINED PERSONNEL OR THE JOBBER.

6.0 USE OF THE DEVICE



CARRY OUT A DAILY CHECK OF MAINTAINED-TYPE CONTROLS CORRECT FUNCTIONING, BEFORE STARTING MACHINE OPERATION.

6.1 Work environment condition

The characteristics of the work environment of the fitting must be kept within the limits prescribed for the tyre demounting machine the fitting is installed on (see the manual concerning the tyre demounting machine).

6.2 Precaution measures during the assembly and the disassembly of tyres

A - Before carrying out the assembly of the tyres follow these safety rules:



ALWAYS UTILIZE RIMS AND TYRES THAT ARE DRY AND IN GOOD STATE; IN PARTICULAR, IF REQUIRED CLEAN THE RIMS AFTER HAVING REMOVED ALL THE OLD BALANCE WEIGHTS (INCLUDED THE ADHESIVE WEIGHTS ON THE INNER SIDE) AND CHECK THAT NEITHER THE BEAD AND THE TREAD OF THE TYRE ARE DAMAGED.



LUBRICATE PLENTIFULLY THE CONTACT SURFACE OF THE RIM AND THE TYRE BEADS USING A LUBRICANT SPECIAL FOR TYRES (NOT CONTAINING WATER, HYDROCARBONS AND SILICONE).



REPLACE THE VALVE OF THE RIM WITH A NEW ONE, OR, IN CASE OF METAL VALVES, REPLACE THE GROMMET.



ALWAYS CHECK THAT TYRE AND RIM HAVE THE CORRECT DIMENSIONS FOR THEIR COUPLING; IF NOT, DO NOT ASSEMBLE THEM.

B - Before carrying out the disassembling of the tyres follow these safety rules:



DEFLATE THE TYRE COMPLETELY.

6.3 Control unit

It consists of a handle control placed on the device. Using this handle control it's possible to control the vertical shifting of the pressure roller (Fig. 1, pos. 3), of the bead lifting disc (Fig. 1, pos. 5) and of the pressing arm (Fig. 1, pos. 7). Lift the lever to control the shifting upwards; lower the lever to control the shifting downwards. The arms positioning of the device in correspondence of the tyre is completely manual-operated.



6.3.1 Rim locking with tyre depressed on self-centering chucks

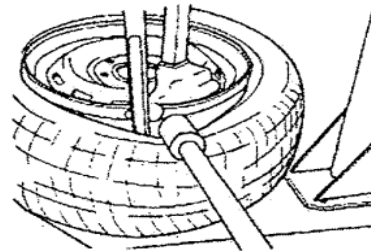
- 1) In order to make the locking of hard or lowered tires easier, the operator can use the rim pusher provided with the bead pusher



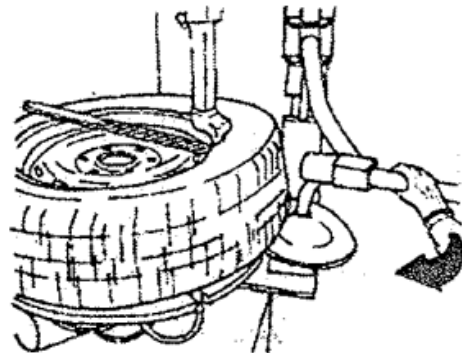
- 2) Apply the rim pusher on the bead pusher too, position it at the center of the rim and low the rim as far as the clamps can lock the rim.

6.4 Tyre dismounting

- 1 Position the roller approx 2 cm from the rim edge. Press down the side wall of the tyre to ease the introduction of the tyre lever.

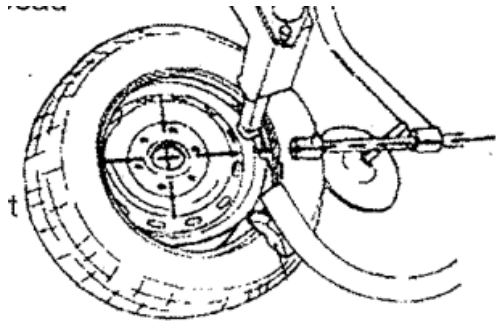


- 2 Move the roller to rest position. Dismount the first bead as described in the machine instruction operation manual.
- 3 To facilitate the lift of the bead on the tool head, position the lower disk next to the lower rim edge. Hold firmly the handle (as shown in the picture below) and at the same time rotate the turntable (by pressing the control pedal).



- 4 This operation allows to loosen the bead if this is stuck and helps lifting the tyre.

6.5 Tyre mounting



- A** – Lock the rim on the turntable.
- B** – Refer to the tyre changer operator’s manual to mount the lower bead.
- C** – Position the roller so that it is convergent to the center of the rim and position the bead pusher tool after the mounting tool.
- D** - Lower the bead pusher so that the roller and the bead pusher tool on the tyre help keeping the bead into the drop center. The bead pusher tool follows the tyre rotation during the mounting operation.
- E** – Lift the device acting on the proper command lever (**UP position**) and bring the roller and the bead pusher tool back to rest position.


ATTENTION: stop the rotation of the turntable once the tire is mounted on the rim, else the tire and the part of machine could be damaged.

7.0 ROUTINE MAINTENANCE

In order to ensure the correct operation and efficiency of the fitting it is essential to follow the instructions for daily or weekly cleaning and periodic routine maintenance, described as follow.

- a - Clean and oil periodically the roller horizontal tie rod.
- b - Grease every month the articulated joint of the roller holder arm and the lower disc and the sliding guides of the mobile guide.

BEFORE ANY MAINTENANCE INTERVENTION ENSURE THAT THERE ARE NO WHEEL CLAMPED ON THE CHECK AND THAT THE ELECTRIC AND PNEUMATIC POWER SUPPLY TO THE MACHINE IS CUT.

	<p>THE MANUFACTURER DOES NOT ACCEPT RESPONSIBILITY FOR ANY DAMAGE RESULTING FROM THE FAILURE TO OBSERVE THE ABOVE INSTRUCTIONS, AND SAID FAILURE COULD INVALIDATE THE GUARANTEE/WARRANTY!</p>
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8.0 TROUBLESHOOTING TABLE

Problem	Possible cause	Rimedy
When the control buttons are pressed there is no movement.	1. Lack of power supply. 2. The supply hoses are wrongly connected. 3. The control valve is faulty.	1. Check the power supply. 2. Check the connection of the hoses. 3. Call for technical assistance.
When the control buttons are pressed the movement is only in one direction.	The control valve is faulty.	Call for technical assistance.

9.0 TECHNICAL DATA

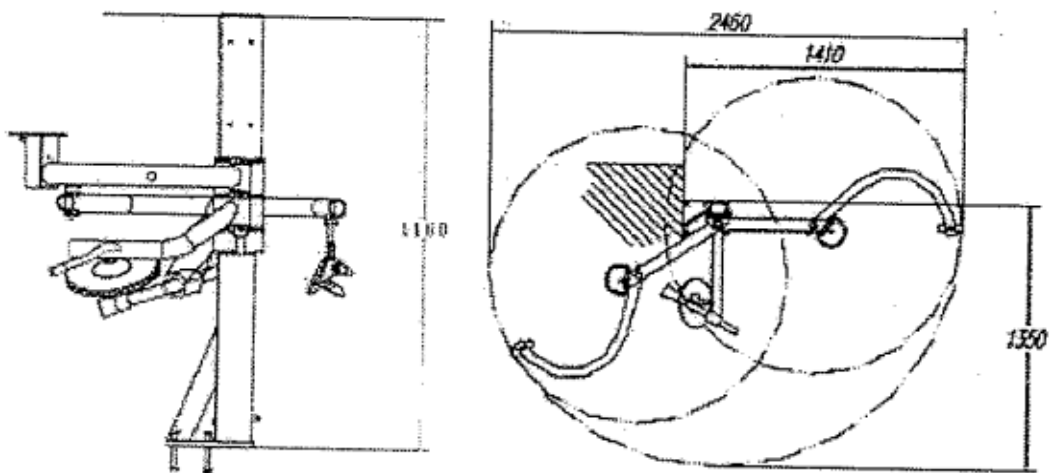
Air pressure required 8-10 Kg/cm²
 Acoustic pressure..... <70dB
 Dimension D x H 1600 x 1160 (mm)

9.1 Weight

PLUS 73 DEVICE approx 52 Kg

9.2 Dimensions

PLUS DEVICE



10.0 STORING

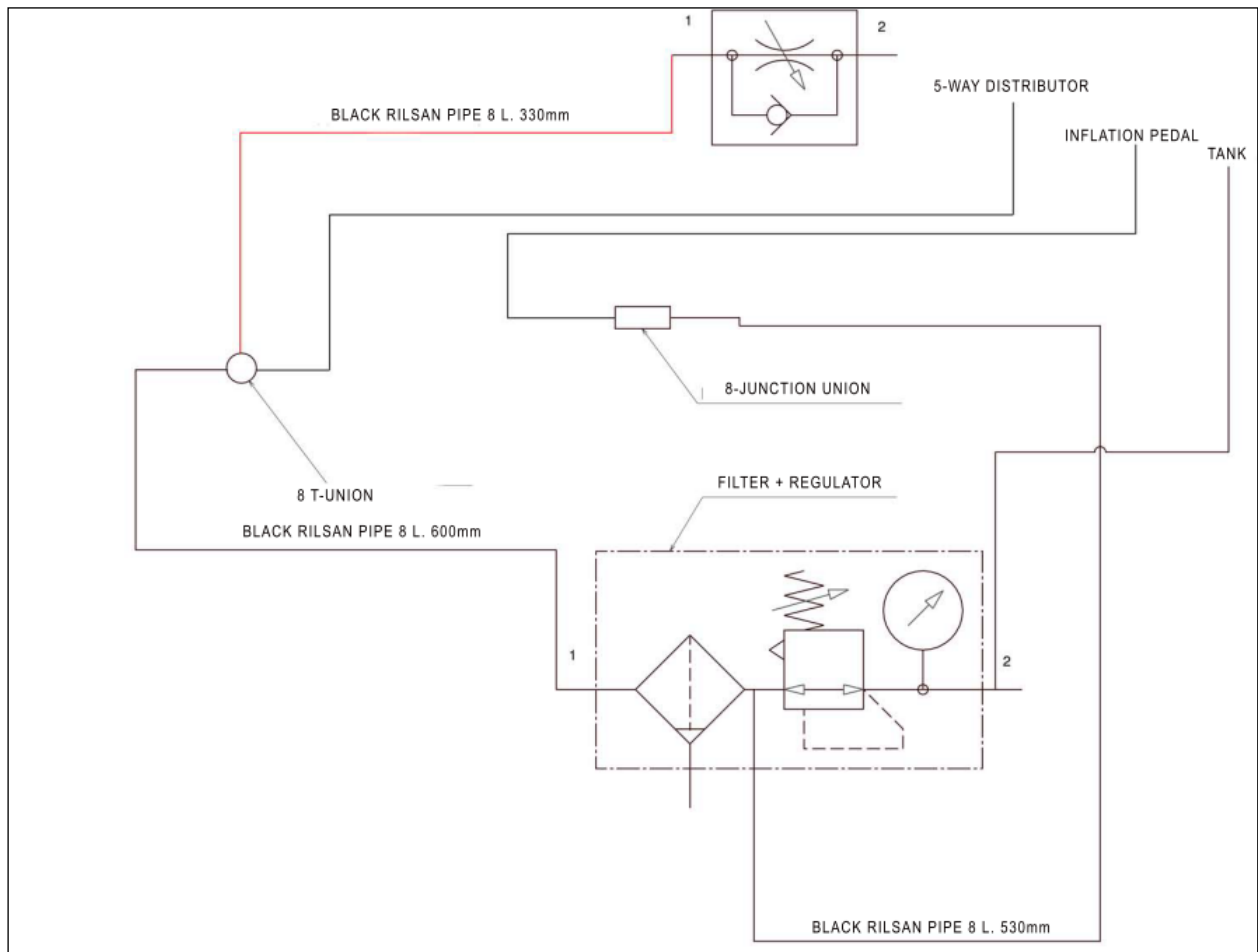
If machine storing is for long periods, disconnect the main power supply and take measures to protect the machine from dust build-up. Lubricate parts that could be damaged from drying out.

11.0 SCRAPPING

When the decision is taken not to make further use of the fitting, it is advisable to make it inoperative by removing the connection pressure hoses. The fitting is to be considered as special waste and should be dismantled into homogeneous parts. Dispose of it in accordance with current legislation.

12.0 FUNCTIONAL DIAGRAM

Here follows the pneumatic scheme.

TABLE A - Pneumatic scheme

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PLUS 73

**LISTA DEI COMPONENTI
LIST OF COMPONENTS
TEILELISTE
LISTE DES PIÈCES DÉTACHÉES
LISTA DE PIEZAS**



GLI ESPLOSI SERVONO SOLO PER L'IDENTIFICAZIONE DELLE PARTI DA SOSTITUIRE. LA SOSTITUZIONE DEVE ESSERE EFFETTUATA DA PERSONALE PROFESSIONALMENTE QUALIFICATO.



THE DIAGRAMS SERVE ONLY FOR THE IDENTIFICATION OF PARTS TO BE REPLACED. THE REPLACEMENT MUST BE CARRIED OUT PROFESSIONALLY QUALIFIED PERSONNEL.



DIE ZEICHNUNGEN DIENEN NUR ZUR IDENTIFIZIERUNG DER ERSATZTEILE. DIE ERSETZUNG MUSS DURCH QUALIFIZIERTES PERSONAL ERFOLGEN.



LES DESSINS NE SERVENT QU'À L'IDENTIFICATION DES PIÈCES À REMPLACER. LE REMPLACEMENT DOIT ÊTRE EFFECTUÉ PAR UN PERSONNE PROFESSIONNELLEMENT QUALIFIÉ.



LOS DIBUJOS EN DESPIECE SIRVEN ÚNICAMENTE PARA IDENTIFICAR LAS PIEZAS QUE DEBEN SUSTITUIRSE. LA SUSTITUCIÓN DE PIEZAS DEBE EFECTUARLA EXCLUSIVAMENTE PERSONAL PROFESIONALMENTE CUALIFICADO.

- Per eventuali chiarimenti interpellare il più vicino rivenditore.
- For any further information please contact your local dealer.
- Für Rückfragen wenden Sie sich bitte an den nächsten Wiederverkäufer.
- Pour tout renseignement complémentaire s'adresser au revendeur le plus proche.
- En caso de dudas, para eventuales aclaraciones, póngase en contacto con el distribuidor más próximo.



#770770010

I	Pattino in plastica guida carro
GB	Plastic sliding block guide carriage
D	Schlitten fuer Fuehrungswagen
F	Patin en plastique guide chariot
E	Patìn guìa carro



#770770020

I	Rullo conico
GB	Conical roller
D	Konische rolle
F	Rouleau conique
E	Rodillo conico



I	Disco d.250
GB	Disc d.250
D	Scheibe d.250
F	Disque d.250
E	Disco d.250

#770770030**#770770040**

I	Levetta comando valvola
GB	Valve control lever
D	Ventilsteuerung hebel
F	Levier commande vanne
E	Palanca mando vàlvula

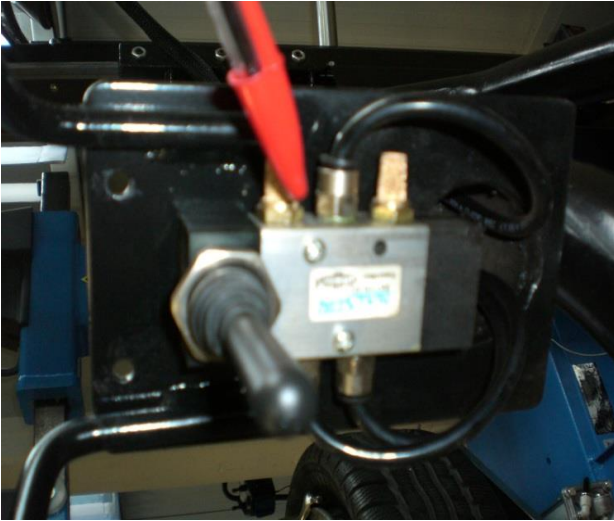
**#770770050**

I	Cono di centraggio ruota
GB	Wheel centering cone
D	Radzentrierung Kegel
F	Cone de centrage roue
E	Cono de centrado rueda



I	Carter copertura valvola comando
GB	Control valve cover guard
D	Ventilsteuerung Abdeckung Gehäuse
F	Carter couverture vanne commande
E	Carter cobertura vàlvula mando

#770770060



#770770070

I	Valvola comando 5 vie
GB	5-way control valve
D	5 Weg Ventil Steuerung
F	Vanne commande à 5 raccord
E	Vàlvula mando a 5 sortidas



#770770080

I	Regolatore di flusso
GB	Flow regulator
D	Flussregler
F	Regulateur de debit
E	Regulador de flujo

I	Utensile premi tallone
GB	Bead pressor tool
D	Wulstabdrueck. Werkzeug
F	Outil pousse-talons



#770770090

E	Utensillo presionatalòn
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#770770100

I	Perno per utensile
GB	Pin for tool
D	Zapfen fuer Werkzeug
F	Pivot pour outil
E	Perno para utensillo



#770713390

I	Perno supporto bracci
GB	Arm support pin
D	Zapfen fuer Armhalterung
F	Pivot support bras
E	Perno soporte brazos



#770770200

I	Braccio supporto disco
GB	Disc support arm
D	Arm fuer Scheibenthalterung
F	Bras support disque
E	Brazo soporte disco



#903105

I	Pomello M10x50
GB	Knob M10x50
D	Kuegelgriff M10x50
F	Poignée M10x50
E	Pomo M10x50

#770770110	I	Cilindro pneumatico
	GB	Pneumatic cylinder
	D	Pneumatischer Zylinder
	F	Cylindre pneumatique
	E	Cilindro neumático

#GU6100	I	Kit guarnizioni per cilindro pneumatico 770770110
	GB	Gasket kit for pneumatic cylinder 770770110
	D	Zylinderdichtungssatz 770770110
	F	Set joints cylindre pneumatique 770770110
	E	Set guarniciones cilindro neumático 770770110

#770770120	I	Albero supporto rullo
	GB	Roller support shaft
	D	Rollenhalterung band
	F	Arbre support rouleau
	E	Arbol soporte rodillo

#770770130	I	Rondella perno fulcro braccio rotante
	GB	Washer for arm fulcrum pin
	D	Scheibe fuer Zapfenfulcrum Arm
	F	Rondelle pour pivot appui bras
	E	Arandela perno fulcro brazo